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TITLE : CASTING AMORPHOUS REFRACTORY FOR VESSEL LINING USED FOR
VACUUM-REFINING MELTED METAL AND ITS APPLIED PRODUCT

ABSTRACT : PROBLEM TO BE SOLVED: To obtain a dense amorphous casting refractory equal to
magnesia- chromium calcined bricks and excellent in durability by specifying spherical
alumina and spinel as aggregates, alumina cement as a binder, and alumina contained in
the remaining fine powder part.

SOLUTION: This casting amorphous refractory for vessel linings used for vacuum-refining
a melted metal comprises 30-70wt.% of spherical alumina and 5-30wt.% of spinel as
aggregates, 1-10wt.% of alumina cement as a binder, and 10-40wt.% of alumina having a
particle diameter of <1mm and contained in the remaining fine powder part. Therein, the
spherical alumina is alumina having a major axis length/minor axis length ratio of 1-1.3
and having a smooth surface shape not having a cutting edge. The casting amorphous
refractory can be cast and subsequently dried into the cast product having an apparent
porosity of $\leq 15\%$ and containing pores having diameter of $\leq 0.2\mu\text{m}$ in a volume of $\geq 40\%$
based on the whole gas volume.

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